

THE DER WEEKLY

www.eren.doe.gov/der

Vol. 2 No. 36

September 7, 2001

Industry News

AstroPower Solar Units Sold at Home Depot

AstroPower, Inc., announced on September 4 that The Home Depot will sell two of its solar electric home power systems in the San Diego area. The units, SunUPS® and SunLine™, are already being sold and installed under The Home Depot's "Installed Products" program in Escondido, Carmel Mountain, and Sports Arena stores. The program provides product sales, financing, installation and service. According to AstroPower, the two systems operate in conjunction with the utility grid and the SunUPS® system includes a battery that helps provide uninterrupted power.



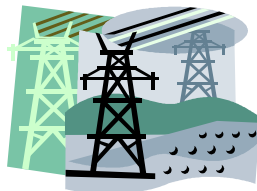
SunLine™ Installation Diagram

AstroPower Press Release, September 4

ITC Leaves Alliance RTO, Joins Midwest ISO

International Transmission Company (ITC), a transmission subsidiary of DTE Energy Company, announced that it has filed with the Federal Energy Regulatory Commission to join the Midwest Independent Systems Operator (ISO) in a special category for independent transmission companies, and withdraw from the Alliance Regional Transmission Organization (RTO). Anthony F. Earley Jr., DTE Energy chairman and CEO, stated that the Midwest ISO "provides a flexible operating environment for both a transmission-dependent utility such as our Detroit Edison subsidiary and an independent transmission company such as our ITC subsidiary." DTE Energy lists its opposition to the selection of National Grid as the Managing Member of the Alliance RTO, among several factors for joining the Midwest ISO.

DTE Energy Press Release, August 31



NREL Scientist Gives Interview on Fuel Cells

Scott Burns, a syndicated journalist, recently interviewed John Turner, Senior Scientist at the National Renewable Energy Laboratory (NREL) and member of the Colorado School of Mines team, about the future of fuel cells. The resulting August 28 article, "The Fuel Cell Future," appeared in newspapers nationwide and also describes opportunities for other renewable energy resources such as photovoltaics and wind. The article can be read online at www.scottburns.com/010828Tu.htm.

PJM is hooking DG up to wireless communications and controls. For more information, read Power Crunch, The DER Weekly Feature, on page 2.

DOE News

Energy Storage Technologies Explored

Engineering firm Black&Veatch has completed a three month study to evaluate the feasibility of an advanced energy storage demonstration facility. The final presentation of the DOE-funded study took place on-site in Boulder City, Nevada, on August 29. Energy Storage program manager Dr. Imre Gyuk welcomed the Mayor and City Council, staff members of Senator Ensign and Congressman Gibbons, officials of Nevada Power and the city-owned utility, as well as industry representatives from the U.S., Australia, and Japan. The report showed that the site is eminently suitable for a technology demonstration of long-term, large scale storage for peak shaving. The 2.5 MW/4 hour unit would replace costly energy obtained on the spot market during hours of peak load with cheaper nighttime electricity. All three candidate storage systems, Sodium-Sulfur, Vanadium Redox, and Zinc-Bromine, proved to be qualified for a proposed field test. Boulder City offered its full cooperation and the use of a graded open site next to a substation if the project is realized.



NTGS Update

The U.S. Department of Energy (DOE) will officially announce the National Transmission Grid Study (NTGS) early next week through the Federal Register and a press release. The study is in response to a recommendation in the National Energy Policy to examine the benefits of a national grid, identify and remove bottlenecks, and produce a final report by December 31, 2001. The DOE steering team met last week with the research staff drafting the report to review six issue papers that will guide discussion at three public workshops to



be held in the last week in September in Detroit, Michigan; Atlanta,

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*Environmental Vehicle (EV) Rental Cars, in association with Budget Rent a Car, will be opening its 13th location this month at Reagan National Airport in Washington, DC.**

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Power Crunch: The DER Weekly Feature

Wireless Communications and Controls for Distributed Generation in the Mid-Atlantic

PJM Interconnection, an energy market administrator and operator of the electric grid for the mid-Atlantic region, and Comverge Technologies, a global data communications company, have initiated a program that provides small energy producers with a wireless connection to PJM's information systems. The program will allow direct communication of metered information from small energy producers (100 kW to 10 MW) that may not have been able to fully participate in PJM's market due to capital equipment costs and investment in communications infrastructure. The new network will also provide faster deployment of new customer connections.

Comverge Technologies' product, Distributed Connection, is a cellular digital packet data metering system designed to monitor and dispatch distributed generation devices. It interfaces with the customer's revenue meter onsite and communicates over a cellular network to the Internet, which connects to PJM's master supervisory control and data acquisition system. With this technology, PJM can communicate with a broad range of customers and combine real time data and revenue information into one system. For detailed product specifications, please visit www.comverge-tech.com/cdc.html.



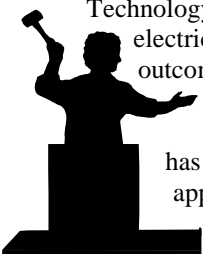
Distributed Connection, Comverge Technologies

Sources: Joint company press release at www.pjm.com, and Comverge Technologies www.comverge-tech.com

Georgia; and Phoenix, Arizona. The Office of Energy Efficiency and Renewable Energy's (EERE) fifty percent share of the \$700,000 funding for the study has been approved, and a web site, www.ntgs.doe.gov, is in place for information on workshop registration and public comment opportunities. Phil Overholt, Larry Mansueti, and Vernellia Johnson are the EERE/Office of Power Technologies members on the steering team, which is led by Jimmy Glotfelty in the Secretary's office. Alison Silverstein is representing the Federal Energy Regulatory Commission in the study team's weekly reviews.

Experimental Electricity Markets Briefing

Dr. Robert Thomas, Cornell University, delivered a presentation to the North American Electric Reliability Council's Market Interface Committee on September 7 about Cornell's experimental approach to assessing market participant behavior in bidding on the sale of electric power. This work is sponsored by the Transmission Reliability Program in the Office of Distributed Energy Resources through Cornell's participation in the Power Systems Engineering Research Center and the Consortium for Electric Reliability Technology Solutions. This experimental analysis of electricity auctions successfully predicted the outcome of the new Federal Energy Regulatory Commission-recommended bidding structure California implemented earlier this year, and has revealed behaviors that are not readily apparent from analytical approaches to market structure evaluations.



Mexico's Energy Minister at DOE

The U.S. Department of Energy hosted a meeting of the Binational Group on Energy of the U.S.-Mexico Binational Commission. Secretary of Energy Spencer Abraham and his counterpart, Energy Secretary Ernesto Martens of Mexico, co-chaired the meeting on September 4. The status of bilateral energy trade, developments in both nations' energy sectors, and scientific and technological cooperation were discussed at the meeting. Several distributed energy resources posters, among other items, were displayed at the event, depicting fuel cells, microturbines, and reciprocating engines.



Secretary Martens had several questions about the technologies, which were entertained by Debbie Haught, Office of Distributed Energy Resources.

(Continued on page 3)

By the Numbers

Group of Eight countries per capita energy consumption in 1999 (in millions of Btu)

411	Canada	356	United States
177	Russia	174	France
172	Japan	170	Germany
167	United Kingdom	140	Italy

World average: 64

Source: *The Washington Post*, August 19, page A10

*Its other locations are in Los Angeles, Sacramento, San Francisco, San Jose, Oakland, San Diego, Ontario, Burbank, Palm Springs, Phoenix, Philadelphia, and Pittsburgh.**

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Regional Office News

CRO Holds Meetings on Wind Purchases in MO

The Chicago Regional Office (CRO) held a series of meetings on aggregating wind purchases in metropolitan Kansas City (Missouri and Kansas) on August 23 and 24. Peter Dreyfuss, CRO, met with Federal, state, and local officials, as well as representatives of GSA, Honeywell (that operates the Kansas City plant for the Department of Energy), and Kansas City Power & Light Company to introduce the concept. Everyone expressed interest in pursuing a joint effort between the Federal, state, and local governments and the utilities. A meeting will be scheduled this fall that will also include Wind Powering America representatives.

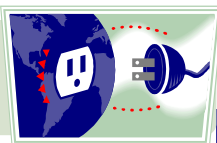
BRO and Health Link Discuss MA Wind Project

The Boston Regional Office (BRO) and the University of Massachusetts have helped HealthLink, a Massachusetts citizens group, identify critical next steps to advance an offshore wind project planned for Marblehead, Massachusetts. The organization is interested in expanding the use of renewable energy as a way to further reduce emissions. A meeting has been scheduled that will include the Marblehead selectmen, Marblehead Municipal Light officials, state representatives, University of Massachusetts, BRO, and HealthLink.

PRO at Mill Run Wind Farm Press Conference

On August 23, Philadelphia Regional Office (PRO) staff participated in a press conference and video release of the construction of the Mill Run Wind Farm. The event took place at the Philadelphia City Hall, included a 100-foot wind blade display, and was organized by the Mid-Atlantic Renewable Energy Coalition. Mill Run Wind Farm will help power Philadelphia-area households by this fall, and is the largest wind farm east of the Mississippi River. For more information on the Mill Run Wind Farm and press conference, please visit www.newwindenergy.com.

What's on the Web



Evolution Markets, an advisory services and brokerage firm focused on environmental and coal markets, has introduced a Web site that includes emissions and coal calculators. The site, www.evomarkets.com, is designed for companies interested in managing their emissions and determining the number and value of their credits. Traders, analysts, and risk managers may also use the site to view daily market reports and historical emissions data.



Upcoming September Events

USACA Meeting on Power Generation Materials

The United States Advanced Ceramics Association will hold its 2001 meeting, Enabling Materials for Power Generation, September 20 in College Park, Maryland. This meeting will highlight established technologies using conventional IC or diesel engine driven generator sets and gas turbines as well as the newly emerging microturbines and fuel cells. Patricia Hoffman, Director of the Distributed Energy Resources Division of the Office of Power Technologies, has been invited to give a presentation on the U.S. Department of Energy Strategic Plan for Distributed Energy Resources.

Communications & Controls Workshop

The Office of Distributed Energy Resources is holding a Communications and Controls (C&C) Workshop on September 25 and 26 in Denver, Colorado. The Workshop is part of a technology roadmapping process to define research and development (R&D) needs and priorities for C&C technologies for distributed energy resources. The resulting roadmap will set the R&D strategies and directions for the U.S. Department of Energy (DOE) Communications and Control Initiative and will be known as the C&C Technology Roadmap.



The Roadmap will include a broad range of distributed energy resources, defined as distributed generation systems, renewable energy resources, demand-side energy management, fuel supply, energy storage, and transmission and delivery mechanisms.

Participants will include decision-makers in industry and Federal/state programs who can elaborate on strategic goals, and technical experts on communication and control technologies. For more information, please contact Eric Lightner, Office of Distributed Energy Resources, eric.lightner@ee.doe.gov.

NREL's 2nd Renewable Energy Policy Forum

The National Renewable Energy Laboratory (NREL) is hosting its Second Renewable Energy and Energy Efficiency Policy Forum in Washington, D.C., on September 26. This year's forum will focus on informing and educating Congressional decision-makers and their staff about distributed energy resources technologies, markets, and legislative activities. Experts have been invited to address the forum, including David Garman, Assistant Secretary for Energy Efficiency and Renewable Energy, and Patricia Hoffman, Director of the Distributed Energy Resources Division of the Office of Power Technologies. NREL will provide an informal transcript of the discussion to U.S. Department of Energy personnel following the event.



*EV Rental Cars offers hybrid, natural gas, low emission, and electric vehicles, and since its inception in 1998, its rentals have prevented more than 15 tons of air pollution.**

Calendar of Events

SEPTEMBER 2001

10-11	Energy Trading in New Economy	New Orleans, LA	www.eyeforenergy.com/eeo2
10-12	Electricity Transmission 2001	Arlington, VA	www.iir-ny.com
10-12	Interconnecting DG to Util. Distrib. Sys.	Madison, WI	University of WI-Madison, College of Engineering (800) 462-0876
10-13	2001 Environ. Innovations Summit	Washington, DC	dunn@performanceweb.org, 703-519-6270
11-13	7th Grove Fuel Cell Symposium	London, UK	www.grovetfuelcell.com
16-19	NASEO Annual Meeting	Portland, ME	www.naseo.org/events/annual/default.htm
17-21	5 th Biomass Confer. of the Americas	Orlando, FL	www.fsec.ucf.edu/bioam ; dee_scheaffer@nrel.gov
20	U.S. Advanced Ceramics Association Annual Meeting	College Park, MD	Laura Neer, USACA, 202-293-6253; www.advancedceramics.org Patricia Hoffman invited to speak.
20-21	Energy Investors Summit	San Francisco, CA	www.srinstitute.com/cr216
24	Washington Policy Agenda: Government and Energy Markets	Washington, DC	www.xenergy.com ; 781-273-5700
24-25	Distributed Generation Conference	Denver, CO	www.cbinet.com
24-26	Powering the Future: New Strategies & Solutions for Deploying DP in Mktplace	Chicago, IL	www.intertechusa.com
24-26	Conservation or Crisis: A NW Choice	Portland, OR	www.bpa.gov/Energy/N/news/crisis.shtml
25-26	Communications & Controls Workshop	Denver, CO	Eric Lightner, eric.lightner@ee.doe.gov
26	NREL's 2nd EERE Policy Forum	Washington, DC	Invitation only; Patricia Hoffman, Director, Office of DER invited to speak. See page 3 for details.
30 – Oct. 5	UPEX'01: The Photovoltaic Experience Conference & Expo	Sacramento, CA	Jjudd@ttcorp.com; hosted by Sacramento Municipal Utility District; includes distributed energy technologies workshop

OCTOBER 2001

2-3	Midwest Electrical Conf. and Expo	Indianapolis, IN	www.electricleagueindiana.org/expo2001/index.htm
4-5	Distributed Generation Seminar	Boston, MA	www.aeecenter.org
7-10	APPA Telecommunications Wkshp.	Seattle, WA	www.appanet.org ; Bethany Luna (202) 467-2993
10-11	Fuel Cell Dynamics: Reality, Not Hype	New York, NY	www.alliedworld.com
14-17	National Center for Photovoltaics Program Review	Lakewood, CO	barbara_ferris@nrel.gov, 303-275-3781
16-18	IEEE Distributed Resources and Electric Power Systems Interconnection Working Group (P1547) Meeting	Las Vegas, NV	http://grouper.ieee.org/groups/scc21/1547/
16-17	CHP Roadmap Meeting	Baltimore, MD	John Jimison, johnj@bcjlaw.com
16-17	Two-day Seminar on Materials for Corrosive Applications	Wilmington, DE	Rick Sutherlin, (541) 967-6924
16-17	Energy & Environmental Technologies Conference	Atlantic City, NJ	www.eetech.org
22-23	Fuel Cells for Portable Devices	San Francisco, CA	www.f-cellsnetwork.com/NA-1660-01
24-26	World Energy Engineering Congress and Combined Heat & Power Expo	Atlanta, GA	www.aqcc.org (CHP Expo www.aeecenter.org)
24-27	Excellence in Building 2001	Orlando, FL	www.eeba.org/conference
28-Nov. 2	2001 IEEE/PES Transmission and Distribution Conference and Expo	Atlanta, GA	www.ieeeet-d.org
29-30	Reliability-Focused Energy Efficiency Conference: Lessons Learned in 2001	Berkeley, CA	www.aceee.org

Calendar of Events

NOVEMBER 2001

1-2	3rd Annual International Symposium on Distributed Energy Resources	San Diego, CA	www.cader.org ; Robert Dixon, Deputy Assistant Secretary, Office of Power Technologies invited to speak
1-4	World Congress for Hydrogen Economy	Denver, CO	www.hydrogennow.org
6	NAESCO DG Conference	Miami, FL	www.naesco.org/conference.htm
6-7	Empire Energy & Environment Expo	Albany, NY	info@eba-nys.org
7	Ohio Fuel Cell Technology Symposium	Cleveland, OH	www.cesnet.org
7-9	NAESCO 18th Annual Conference	Miami, FL	www.naesco.org/conference.htm
8-9	DG Strategies & On-site Power Applications for Fuel Cells	Atlanta, GA	www.dist-gen.com
11-14	113th NARUC Annual Convention	Philadelphia, PA	www.naruc.org
12-14	Fuel Cells for Stationary, Automotive and Portable Apps.	Fort Lauderdale, FL	Florida Educational Seminars, (561) 367-0193
27-28	Business for Fuel Cells for Stationary Applications	Brussels, Belgium	www.eyeforfuelcells.com
28-29	Business Energy Solutions Expo	Orlando, FL	www.aeecenter.org ; www.tecoenergy.com
28-30	The Power to Choose: Creating an Expanded DER Industry	Washington, DC	cs@energeticsinc.com

DECEMBER 2001

3-4	4th Business Case for Opportunity and Investment in Fuel Cells	Miami, FL	www.cbinet.com
5-7	4th Annual Interactive Energy Conf.	Houston, TX	www.interactiveenergy.com/2001
11-13	Power-Gen International	Las Vegas, NV	www.pennwellevents.com

JANUARY 2002

14-15	Material Technologies for Fuel Cells and Power Electronics	Cocoa Beach, FL	www.ceramics.org/meetings/ECD2002/expo.asp
28-Feb.1	Distributed Power Program Annual Review Meeting	Arlington, VA	kimberly_taylor@nrel.gov
29-Feb.1	Reducing Your Energy Costs Conference and Exhibit	New Orleans, LA	Stuart Steller, 781-939-2411, s.steller@cbinet.com

FEBRUARY 2002

27-Mar 1	DistribuTECH	Miami Beach, FL	www.pennwellevents.com
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MARCH 2002

17-21	EPRI's 7th Distributed Resources Conference and Expo	Dallas, TX	lgoldie@epri.com
19-21	Electric Power 2002	St. Louis, MO	www.electricpowerexpo.com